(2) Model,[1] child (for persons weighless than 90 pounds).

[CGD 72–163R, 38 FR 8121, Mar. 28, 1973]

§ 160.055–3 Materials—standard life preservers.

(a) *General.* All components used in the construction of life preservers must meet the applicable requirements of subpart 164.019 of this chapter. The requirements for materials specified in this section are minimum requirements, and consideration will be given to the use of alternate materials in lieu of those specified. Detailed technical data and samples of all proposed alternate materials must be submitted for approval before those materials are incorporated in the finished product.

(b) *Unicellular plastic foam.* The unicellular plastic foam shall be all new material complying with the requirements of Subpart 164.015 of this chapter for Type A foam.

(c) *Envelope.* The life preserver envelope, or cover, shall be made of cotton drill. The color shall be Indian Orange, Cable No. 70072, Standard Color Card of America, issued by the Textile Color Association of the United States, Inc., 200 Madison Avenue, New York, N.Y., or Scarlet Munsell 7.5 Red 6/10. The drill shall be evenly dyed, and the fastness of the color to laundering, water, crocking, and light shall be rated ''good'' when tested in accordance with Federal Test Method Standard No. 191, Methods 5610, 5630, 5650, and 5660. After dyeing, the drill shall be treated with a mildew-inhibitor of the type specified in paragraph (e) of this section. The finished goods shall contain not more than 2 percent residual sizing or other nonfibrous material, shall weigh not less than 6.5 ounces per square yard, shall have a thread count of not less than 74 in the warp and 56 in the filling, and shall have a breaking strength (grab method) of not less than 105 pounds in the warp and 70 pounds in the filling. Properly mildew-inhibited drills meeting the physical requirements of Federal Specification CCC-C-426 for Type I, Class 3 drill will be acceptable. If it is proposed to treat the fabric with a fire-retardant substance, full details shall be submitted to the Commandant for determination as to what samples will be needed for testing.

(d) *Thread.* Each thread must meet the requirements of subpart 164.023 of this chapter. Only one kind of thread may be used in each seam.

(e) *Mildew-inhibitor.* The mildew-inhibitor shall be dihydroxydichlorodiphenylmethane, known commercially as Compound G–4, applied by the aqueous method. The amount of inhibitor deposited shall be not more than 1.50 percent and not less than 1 percent of the dry weight of the finished goods.

(f) *Adhesive.* The adhesive shall be an all-purpose waterproof vinyl type. (Minnesota Mining and Manufacturing Co. EC–870 or EC–1070, United States Rubber Co. M–6256, Herculite Protective Fabrics Corp., CVV, Pittsburgh Plate Glass Co. R 828, or equal.)

(g) *Reinforcing fabric.* The reinforcing fabric shall be Type III, Class I, laminated vinyl-nylon high strength cloth in accordance with the requirements of Specification MIL-C-43006.

(h) *Webbing.* There are no restrictions as to color, but the fastness of the color to laundering, water, crocking, and light shall be rated ''good'' when tested in accordance with Federal Test Method Standard No. 191, Methods 5610, 5630, 5650, and 5660. The complete body strap assembly shall have a minimum breaking strength of 360 pounds.

(1) *Nylon webbing.* This webbing shall be 1-inch wide nylon webbing in accordance with the requirements of Specification MIL-W-17337.

(2) *Cotton webbing.* This webbing shall be 1-inch cotton webbing meeting the requirements of Specification MIL-W-530 for Type IIb webbing. This webbing shall be treated with a mildew-inhibitor of the type specified in paragraph (e) of this section.

(i) *Hardware.* All hardware shall be brass, bronze, or stainless steel, and of the approximate size indicated by the drawings. Steel hardware, protected against corrosion by plating, is not acceptable. Snap hook springs shall be phosphor bronze or other suitable corrosion-resistant material. Dee ring, o-

[1] A model designation for each nonstandard life preserver is to be assigned by the manufacturer. That designation must be different from any standard lifesaving device designation.

ring, slide adjuster and snap hook ends shall be welded or brazed, or they may be a one-piece casting. The complete body strap assembly shall have a minimum breaking strength of 360 pounds.

(j) *Coating.* The coating for the plastic foam shall be a liquid elastomeric vinyl compound. The coating shall be International Orange in color (Color No. 12197 of Federal Standard 595) or Scarlet Munsel 7.5, Red 6/10 and shall meet the following requirements in Table 160.055–3(j):

TABLE 160.055–3(j)

Property	Test method	Requirement
Tensile strength	ASTM-D882, Method B, ½ in. dumbbell die	1,200 p.s.i., minimum.
Ultimate elongation	ASTM-D882, Method B, ½ in. dumbbell die	320 percent, minimum.
Tear resistance	ASTM-D1004, Constant Elongation Machine	90 pounds per inch, minimum.
Abrasion resistance	FS CCC-T-191, Method 5304, No. 8 cotton duck, 6 lb. tension, 2 lb. pressure.	100,000 double rubs.
Blocking	FS CCC-T-191, Method 5872, 30 minutes at 180 °F., ¼ p.s.i.	No blocking.
Accelerated weathering	FS CCC-T-191, Method 5670, 120 hours	Color change—very slight. Cracking—None. Flexibility—No change.
Plasticizer heat loss	FS CCC-A-700, paragraph 4.4.4, 48 hours at 221 °F.	8 percent, maximum.
Adhesion to foam—Tensile pull	ASTM-D413, machine method, 12 in. per minute, 1 in. strip.	
Film to foam skin		4 lb./in., minimum.
Film to foam (no skin)		2 lb./in., minimum.
Water absorption	ASTM-D570, 24 hours at 70 °F	0.5 percent, maximum.
Cold crack (unsupported film) 0 °F	Coast Guard, 164.015, paragraph 164.015–4(j)	No cracking.

[CGFR 66–73, 32 FR 5500, Apr. 4, 1967, as amended by CGD 72–163R, 38 FR 8121, Mar. 28, 1973; CGD 78–012, 43 FR 27153, 27154, June 22, 1978; CGD 84–068, 58 FR 29493, May 20, 1993]

§ 160.055–4 Materials—nonstandard life preservers.

All materials used in nonstandard life preservers must be equivalent to those specified in § 160.055–3 for standard life preservers.

[CGD 72–163R, 38 FR 8121, Mar. 28, 1973]

§ 160.055–5 Construction—standard life preservers.

(a) *General.* This specification covers life preservers which essentially consist of plastic foam buoyant material arranged and distributed so as to provide the flotation characteristics and buoyancy required to hold the wearer in an upright or slightly backward position with head and face clear of the water. The life preservers are also arranged so as to be reversible and are fitted with straps and hardware to provide proper adjustment and fit to the bodies of various size wearers.

(b) *Construction—standard, vinyl dip coated life preserver.* This device is constructed from one piece of unicellular plastic foam with neck hole and the body slit in the front, vinyl dip coating, and fitted and adjustable body strap.

(1) *Buoyant material.* The buoyant material of the life preserver shall be a molded shape or made from one or two sheets of foam finished so as to have dimensions after coating in accordance with the pattern shown on Dwg. No. 160.055–1A, Sheet 1, for adult size and Sheet 2 for child size. The reinforcing fabric shall be cemented on the foam buoyant body before coating.

(2) *Coating.* After all cutting and shaping of the buoyant body and installation of the reinforcing fabric, the entire body of the life preserver shall be coated evenly and smoothly to a minimum thickness of 0.010″ with a liquid vinyl coating material of the type described in § 160.055–3(j).

(3) *Body strap.* After the coating on the buoyant body of the life preserver is fully cured, a nylon webbing body strap shall be attached as shown on Dwg. No. 160.055–IA.

(4) *Stitching.* All stitching shall be a short lock stitch, conforming to Stitch Type 301 of Federal Standard 751, with nylon thread, and there shall be not